Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/04/2010 has been entered. Claims 17, 21, and 30 are pending.

Claim Rejections - 35 USC § 102 - Maintained

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17, 21, and 30 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wiley (2002, U.S. PGPub 2002/0041876, of record). This rejection is maintained for the reasons of record and is repeated herein for convenience.

Wiley teaches methods of administering an antisense nucleic acid targeted to TWEAK (page 8, paragraph 101; page 9 paragraphs 106 and 107). At page 9, paragraph 110, Wiley teaches that the antisense nucleic acids are typically administered with additional factors, such as pharmaceutically acceptable carriers. At page 10, paragraph 119, Wiley teaches that the nucleic

acid sequences can be delivered with viral delivery systems such as retroviral and adenoviral vectors. Thus, Wiley anticipates the instant claims.

Response to arguments

Applicant argues that "nothing in Wiley specifically discloses or suggests the use of antisense molecules that are directed against TWEAK, or the use of a siRNA directed against TWEAK or the TWEAK receptor," (bottom of p.3 of Applicant's response). This is not persuasive. Applicant is apparently missing the cited portion of the Wiley reference (at p.9, paragraph 107) that states, "In addition to polypeptides comprising a fragment of TWEAKR extracellular domain, soluble TWEAKR multimers, and antibodies that bind to the TWEAKR extracellular domain, other forms of TWEAKR antagonists can also be administered to achieve a therapeutic effect. Examples of other forms of TWEAKR antagonists include other antibodies such as antibodies against TWEAK, antisense nucleic acids, ribozymes, muteins, aptamers, and small molecules directed against TWEAKR or against TWEAK." Applicant's further arguments regarding the promotion of angiogenesis on page 4 of the 02/04/2010 response is not persuasive because Wiley clearly indicates at the cited portion of the reference, that antisense nucleic acids targeted to TWEAK are one type of antagonist that can be administered to achieve the therapeutic effect. Furthermore, the instant claims recite no limitations regarding angiogenesis. On the other hand, the methods embrace "prophylaxis" of stroke. Note that such prophylaxis would be inherent in carrying out the method steps of Wiley.

Claim Rejections - 35 USC § 103 - Maintained

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 17, 21, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiley and further in view of Bass (2001, Nature, v.411:428-9, of record) and Elbashir, et al. (2001, Nature, v.411:494-8, of record). This rejection is maintained for the reasons of record and is repeated herein for convenience.

Wiley teaches the administration of antisense oligonucleotides for decreasing TWEAK expression as described in the preceding rejection. Wiley does not teach the use of siRNAs for decreasing TWEAK expression.

Bass teaches that RNA interference, mediated by double-stranded small interfering RNAs (siRNAs), has proven to be more robust than antisense techniques in that it works more often and typically decreases expression of a gene to lower levels than do antisense oligonucleotides or eliminates expression entirely (p.429. top of first column). Bass further states that in mammalian cells, siRNAs are effective at concentrations that are several orders of magnitude below the concentrations typically used in antisense experiments (p.429 top of first column). Elbashir, et al. teach that siRNAs are 21- and 22-nucleotide RNA duplexes that suppress gene expression in mammalian cells (abstract).

It would have been obvious to one of skill in the art at the time of the instant invention to administer antisense oligonucleotides to inhibit TWEAK expression as taught by Wiley. It

further would have been obvious to use siRNAs to inhibit TWEAK expression in place of antisense oligonucleotides because Bass teaches that siRNAs are more effective than antisense oligonucleotides at inhibiting target gene expression and Elbashir, et al. teach the structure of siRNAs. Thus, the claims would have been obvious at the time of the instant invention.

Response to arguments

Applicant argues that the claims are not anticipated by Wiley for the reasons mentioned above, and that therefore, Bass contributes nothing with regard to the obviousness of the instant claims because Bass does not controvert Wiley's teachings. This is not persuasive because Wiley teaches administration of TWEAK-targeted antisense nucleic acids as indicated in the preceding rejection. Furthermore, the instant claims recite no limitations regarding angiogenesis.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER PITRAK whose telephone number is (571)270-3061. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fereydoun Sajjadi can be reached on 571-272-3311. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner
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/Richard Schnizer/
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